ABSTRACT

ROTARY MACHINE

A rotary machine is disclosed having a rotor 11, a stator 16, and blade rows 12, 14 on the rotor and stator that impart a high swirl component to gases flowing through the machine so that the denser impurities are deflected radially outwards by centripetal action onto the inner wall of the stator of the machine. A ramped guide surface is provided on the inner wall 17 of the stator along which any impurities separated by the centripetal action from the main gas stream are entrained by the main gas stream and guided to flow from the gas intake side to the gas outlet side of the machine. The guide surface is radially stepped to resist only reverse flow of the separated impurities back towards the gas intake side of the machine and serves at the downstream end of the machine to discharge the separated impurities back into the main gas stream for the impurities to exit from the machine with the main gas stream.

Figure 3.